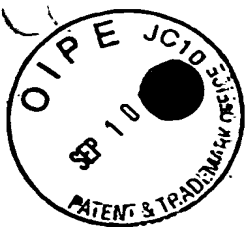


PF-0687 USN



<110> LAL, Preeti  
YUE, Henry  
TANG, Y. Tom  
HILLMAN, Jennifer L.  
BAUGHN, Mariah R.  
YANG, Junming

<120> Carbohydrate-Modifying Enzyme

<130> PF-0687 USN

<140> 09/980,729

<141> Herewith

<150> PCT/US00/10882

<151> 2000-04-20

<150> 60/130,383

<151> 1999-04-21

<160> 10

<170> PERL Program

<210> 1

<211> 434

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 000422CD1

<400> 1

Met	Asp	Ser	Val	Glu	Lys	Gly	Ala	Ala	Thr	Ser	Val	Ser	Asn	Pro
1				5					10					15
Arg	Gly	Arg	Pro	Ser	Arg	Gly	Arg	Pro	Pro	Lys	Leu	Gln	Arg	Asn
			20						25					30
Ser	Arg	Gly	Gly	Gln	Gly	Arg	Gly	Val	Glu	Lys	Pro	Pro	His	Leu
			35						40					45
Ala	Ala	Leu	Ile	Leu	Ala	Arg	Gly	Gly	Ser	Lys	Gly	Ile	Pro	Leu
			50						55					60
Lys	Asn	Ile	Lys	His	Leu	Ala	Gly	Val	Pro	Leu	Ile	Gly	Trp	Val
			65						70					75
Leu	Arg	Ala	Ala	Leu	Asp	Ser	Gly	Ala	Phe	Gln	Ser	Val	Trp	Val
			80						85					90
Ser	Thr	Asp	His	Asp	Glu	Ile	Glu	Asn	Val	Ala	Lys	Gln	Phe	Gly
			95						100					105
Ala	Gln	Val	His	Arg	Arg	Ser	Ser	Glu	Val	Ser	Lys	Asp	Ser	Ser
			110						115					120
Thr	Ser	Leu	Asp	Ala	Ile	Ile	Glu	Phe	Leu	Asn	Tyr	His	Asn	Glu
			125						130					135
Val	Asp	Ile	Val	Gly	Asn	Ile	Gln	Ala	Thr	Ser	Pro	Cys	Leu	His

PF-0687 USN

Pro Thr Asp Leu	Gln Lys Val Ala Glu	Met Ile Arg Glu Glu Gly	140	145	150
Tyr Asp Ser Val	Phe Ser Val Val Arg	Arg His Gln Phe Arg Trp	155	160	165
Ser Glu Ile Gln	Lys Gly Val Arg Glu	Val Thr Glu Pro Leu Asn	170	175	180
Leu Asn Pro Ala	Lys Arg Pro Arg Arg	Gln Asp Trp Asp Gly Glu	185	190	195
Leu Tyr Glu Asn	Gly Ser Phe Tyr Phe	Ala Lys Arg His Leu Ile	200	205	210
Glu Met Gly Tyr	Leu Gln Gly Gly Lys	Met Ala Tyr Tyr Glu Met	215	220	225
Arg Ala Glu His	Ser Val Asp Ile Asp	Val Asp Ile Asp Trp Pro	230	235	240
Ile Ala Glu Gln	Arg Val Leu Arg Tyr	Gly Tyr Phe Gly Lys Glu	245	250	255
Lys Leu Lys Glu	Ile Lys Leu Leu Val	Cys Asn Ile Asp Gly Cys	260	265	270
Leu Thr Asn Gly	His Ile Tyr Val Ser	Gly Asp Gln Lys Glu Ile	275	280	285
Ile Ser Tyr Asp	Val Lys Asp Ala Ile	Gly Ile Ser Leu Leu Lys	290	295	300
Lys Ser Gly Ile	Glu Val Arg Leu Ile	Ser Glu Arg Ala Cys Ser	305	310	315
Lys Gln Thr Leu	Ser Ser Leu Lys Leu	Asp Cys Lys Met Glu Val	320	325	330
Ser Val Ser Asp	Lys Leu Ala Val Val	Asp Glu Trp Arg Lys Glu	335	340	345
Met Gly Leu Cys	Trp Lys Glu Val Ala	Tyr Leu Gly Asn Glu Val	350	355	360
Ser Asp Glu Glu	Cys Leu Lys Arg Val	Gly Leu Ser Gly Ala Pro	365	370	375
Ala Asp Ala Cys	Ser Thr Ala Gln Lys	Ala Val Gly Tyr Ile Cys	380	385	390
Lys Cys Asn Gly	Gly Arg Gly Ala Ile	Arg Glu Phe Ala Glu His	395	400	405
Ile Cys Leu Leu	Met Glu Lys Val Asn	Asn Ser Cys Gln Lys	410	415	420
	425	430			

<210> 2

<211> 302

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 983984CD1

<400> 2

Met Lys Ala Pro Gly Arg Leu Val Leu Ile Ile Leu Cys Ser Val	
1	5 10 15

PF-0687 USN

Val Phe Ser Ala Val Tyr Ile Leu Leu Cys Cys Trp Ala Gly Leu  
20 25 30  
Pro Leu Cys Leu Ala Thr Cys Leu Asp His His Phe Pro Thr Gly  
35 40 45  
Ser Arg Pro Thr Val Pro Gly Pro Leu His Phe Ser Gly Tyr Ser  
50 55 60  
Ser Val Pro Asp Gly Lys Pro Leu Val Arg Glu Pro Cys Arg Ser  
65 70 75  
Cys Ala Val Val Ser Ser Ser Gly Gln Met Leu Gly Ser Gly Leu  
80 85 90  
Gly Ala Glu Ile Asp Ser Ala Glu Cys Val Phe Arg Met Asn Gln  
95 100 105  
Ala Pro Thr Val Gly Phe Glu Ala Asp Val Gly Gln Arg Ser Thr  
110 115 120  
Leu Arg Val Val Ser His Thr Ser Val Pro Leu Leu Leu Arg Asn  
125 130 135  
Tyr Ser His Tyr Phe Gln Lys Ala Arg Asp Thr Leu Tyr Met Val  
140 145 150  
Trp Gly Gln Gly Arg His Met Asp Arg Val Leu Gly Gly Arg Thr  
155 160 165  
Tyr Arg Thr Leu Leu Gln Leu Thr Arg Met Tyr Pro Gly Leu Gln  
170 175 180  
Val Tyr Thr Phe Thr Glu Arg Met Met Ala Tyr Cys Asp Gln Ile  
185 190 195  
Phe Gln Asp Glu Thr Gly Lys Asn Arg Arg Gln Ser Gly Ser Phe  
200 205 210  
Leu Ser Thr Gly Trp Phe Thr Met Ile Leu Ala Leu Glu Leu Cys  
215 220 225  
Glu Glu Ile Val Val Tyr Gly Met Val Ser Asp Ser Tyr Cys Arg  
230 235 240  
Glu Lys Ser His Pro Ser Val Pro Tyr His Tyr Phe Glu Lys Gly  
245 250 255  
Arg Leu Asp Glu Cys Gln Met Tyr Leu Ala His Glu Gln Ala Pro  
260 265 270  
Arg Ser Ala His Arg Phe Ile Thr Glu Lys Ala Val Phe Ser Arg  
275 280 285  
Trp Ala Lys Lys Arg Pro Ile Val Phe Ala His Pro Ser Trp Arg  
290 295 300  
Thr Glu

<210> 3

<211> 578

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 2210054CD1

<400> 3

Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu

1	5	10	15
Leu Pro Gln His	His Gly Ala Pro Gly	Pro Asp Gly Ser Ala	Pro
20	25	30	
Asp Pro Ala His	Tyr Arg Glu Arg Val	Lys Ala Met Phe Tyr	His
35	40	45	
Ala Tyr Asp Ser	Tyr Leu Glu Asn Ala	Phe Pro Phe Asp Glu	Leu
50	55	60	
Arg Pro Leu Thr	Cys Asp Gly His Asp	Thr Trp Gly Ser Phe	Ser
65	70	75	
Leu Thr Leu Ile	Asp Ala Leu Asp Thr	Leu Leu Ile Leu Gly	Asn
80	85	90	
Val Ser Glu Phe	Gln Arg Val Val Glu	Val Leu Gln Asp Ser	Val
95	100	105	
Asp Phe Asp Ile	Asp Val Asn Ala Ser	Val Phe Glu Thr Asn	Ile
110	115	120	
Arg Val Val Gly	Gly Leu Leu Ser Ala	His Leu Leu Ser Lys	Lys
125	130	135	
Ala Gly Val Glu	Val Glu Ala Gly Trp	Pro Cys Ser Gly Pro	Leu
140	145	150	
Leu Arg Met Ala	Glu Glu Ala Ala Arg	Lys Leu Leu Pro Ala	Phe
155	160	165	
Gln Thr Pro Thr	Gly Met Pro Tyr Gly	Thr Val Asn Leu Leu	His
170	175	180	
Gly Val Asn Pro	Gly Glu Thr Pro Val	Thr Cys Thr Ala Gly	Ile
185	190	195	
Gly Thr Phe Ile	Val Glu Phe Ala Thr	Leu Ser Ser Leu Thr	Gly
200	205	210	
Asp Pro Val Phe	Glu Asp Val Ala Arg	Val Ala Leu Met Arg	Leu
215	220	225	
Trp Glu Ser Arg	Ser Asp Ile Gly Leu	Val Gly Asn His Ile	Asp
230	235	240	
Val Leu Thr Gly	Lys Trp Val Ala Gln	Asp Ala Gly Ile Gly	Ala
245	250	255	
Gly Val Asp Ser	Tyr Phe Glu Tyr Leu	Val Lys Gly Ala Ile	Leu
260	265	270	
Leu Gln Asp Lys	Lys Leu Met Ala Met	Phe Leu Glu Tyr Asn	Lys
275	280	285	
Ala Ile Arg Asn	Tyr Thr Arg Phe Asp	Asp Trp Tyr Leu Trp	Val
290	295	300	
Gln Met Tyr Lys	Gly Thr Val Ser Met	Pro Val Phe Gln Ser	Leu
305	310	315	
Glu Ala Tyr Trp	Pro Gly Leu Gln Ser	Leu Ile Gly Asp Ile	Asp
320	325	330	
Asn Ala Met Arg	Thr Phe Leu Asn Tyr	Tyr Thr Val Trp Lys	Gln
335	340	345	
Phe Gly Gly Leu	Pro Glu Phe Tyr Asn	Ile Pro Gln Gly Tyr	Thr
350	355	360	
Val Glu Lys Arg	Glu Gly Tyr Pro Leu	Arg Pro Glu Leu Ile	Glu
365	370	375	
Ser Ala Met Tyr	Leu Tyr Arg Ala Thr	Gly Asp Pro Thr Leu	Leu
380	385	390	
Glu Leu Gly Arg	Asp Ala Val Glu Ser	Ile Glu Lys Ile Ser	Lys

	395		400		405
Val Glu Cys Gly	Phe Ala Thr Ile Lys Asp	Leu Arg Asp His Lys			
	410		415		420
Leu Asp Asn Arg	Met Glu Ser Phe Phe	Leu Ala Glu Thr Val Lys			
	425		430		435
Tyr Leu Tyr Leu	Leu Phe Asp Pro Thr	Asn Phe Ile His Asn Asn			
	440		445		450
Gly Ser Thr Phe	Asp Thr Val Ile Thr	Pro Tyr Gly Glu Cys Ile			
	455		460		465
Leu Gly Ala Gly	Gly Tyr Ile Phe Asn Thr	Glu Ala His Pro Ile			
	470		475		480
Asp Pro Ala Ala	Leu His Cys Cys Gln	Arg Leu Lys Glu Glu Gln			
	485		490		495
Trp Glu Val Glu	Asp Leu Met Arg Glu	Phe Tyr Ser Leu Lys Arg			
	500		505		510
Ser Arg Ser Lys	Phe Gln Lys Asn Thr	Val Ser Ser Gly Pro Trp			
	515		520		525
Glu Pro Pro Ala	Arg Pro Gly Thr Leu	Phe Ser Pro Glu Asn His			
	530		535		540
Asp Gln Ala Arg	Glu Arg Lys Pro Ala	Lys Gln Lys Val Pro Leu			
	545		550		555
Leu Ser Cys Pro	Ser Gln Pro Phe Thr	Ser Lys Leu Ala Leu Leu			
	560		565		570
Gly Gln Val Phe	Leu Asp Ser Ser				
	575				

<210> 4

<211> 461

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 2618358CD1

<400> 4

Met Gly Gly Ser Thr	Ala Ala Tyr Gln Val	Glu Gly Gly Trp Asp
1	5	10 15
Ala Asp Gly Lys Gly	Pro Cys Val Trp Asp	Thr Phe Thr His Gln
	20	25 30
Gly Gly Glu Arg Val	Phe Lys Asn Gln Thr	Gly Asp Val Ala Cys
	35	40 45
Gly Ser Tyr Thr	Leu Trp Glu Glu Asp	Leu Lys Cys Ile Lys Gln
	50	55 60
Leu Gly Leu Thr His	Tyr Arg Phe Ser	Leu Ser Trp Ser Arg Leu
	65	70 75
Leu Pro Asp Gly Thr	Thr Gly Phe Ile	Asn Gln Lys Gly Ile Asp
	80	85 90
Tyr Tyr Asn Lys Ile	Ile Asp Asp Leu	Leu Lys Asn Gly Val Thr
	95	100 105
Pro Ile Val Thr	Leu Tyr His Phe Asp	Leu Pro Gln Thr Leu Glu
	110	115 120

PF-0687 USN

Asp	Gln	Gly	Gly	Trp	Leu	Ser	Glu	Ala	Ile	Ile	Glu	Ser	Phe	Asp	
				125					130					135	
Lys	Tyr	Ala	Gln	Phe	Cys	Phe	Ser	Thr	Phe	Gly	Asp	Arg	Val	Lys	
				140					145					150	
Gln	Trp	Ile	Thr	Ile	Asn	Glu	Ala	Asn	Val	Leu	Ser	Val	Met	Ser	
				155					160					165	
Tyr	Asp	Leu	Gly	Met	Phe	Pro	Pro	Gly	Ile	Pro	His	Phe	Gly	Thr	
				170					175					180	
Gly	Gly	Tyr	Gln	Ala	Ala	His	Asn	Leu	Ile	Lys	Ala	His	Ala	Arg	
				185					190					195	
Ser	Trp	His	Ser	Tyr	Asp	Ser	Leu	Phe	Arg	Lys	Lys	Gln	Lys	Gly	
				200					205					210	
Met	Val	Ser	Leu	Ser	Leu	Phe	Ala	Val	Trp	Leu	Glu	Pro	Ala	Asp	
				215					220					225	
Pro	Asn	Ser	Val	Ser	Asp	Gln	Glu	Ala	Ala	Lys	Arg	Ala	Ile	Thr	
				230					235					240	
Phe	His	Leu	Asp	Leu	Phe	Ala	Lys	Pro	Ile	Phe	Ile	Asp	Gly	Asp	
				245					250					255	
Tyr	Pro	Glu	Val	Val	Lys	Ser	Gln	Ile	Ala	Ser	Met	Ser	Gln	Lys	
				260					265					270	
Gln	Gly	Tyr	Pro	Ser	Ser	Arg	Leu	Pro	Glu	Phe	Thr	Glu	Glu	Glu	
				275					280					285	
Lys	Lys	Met	Ile	Lys	Gly	Thr	Ala	Asp	Phe	Phe	Ala	Val	Gln	Tyr	
				290					295					300	
Tyr	Thr	Thr	Arg	Leu	Ile	Lys	Tyr	Gln	Glu	Asn	Lys	Lys	Gly	Glu	
				305					310					315	
Leu	Gly	Ile	Leu	Gln	Asp	Ala	Glu	Ile	Glu	Phe	Phe	Pro	Asp	Pro	
				320					325					330	
Ser	Trp	Lys	Asn	Val	Asp	Trp	Ile	Tyr	Val	Val	Pro	Trp	Gly	Val	
				335					340					345	
Cys	Lys	Leu	Leu	Lys	Tyr	Ile	Lys	Asp	Thr	Tyr	Asn	Asn	Pro	Val	
				350					355					360	
Ile	Tyr	Ile	Thr	Glu	Asn	Gly	Phe	Pro	Gln	Ser	Asp	Pro	Ala	Pro	
				365					370					375	
Leu	Asp	Asp	Thr	Gln	Arg	Trp	Glu	Tyr	Phe	Arg	Gln	Thr	Phe	Gln	
				380					385					390	
Glu	Leu	Phe	Lys	Ala	Ile	Gln	Leu	Asp	Lys	Val	Asn	Leu	Gln	Val	
				395					400					405	
Tyr	Cys	Ala	Trp	Ser	Leu	Leu	Asp	Asn	Phe	Glu	Trp	Asn	Gln	Gly	
				410					415					420	
Tyr	Ser	Ser	Arg	Phe	Gly	Leu	Phe	His	Val	Asp	Phe	Glu	Asp	Pro	
				425					430					435	
Ala	Arg	Pro	Arg	Val	Pro	Tyr	Thr	Ser	Ala	Lys	Glu	Tyr	Ala	Lys	
				440					445					450	
Ile	Ile	Arg	Asn	Asn	Gly	Leu	Glu	Ala	His	Leu					
				455					460						

<210> 5

<211> 529

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<223> Incyte ID No: 2912330CD1

<400> 5

Met	Ser	Met	Lys	Trp	Thr	Ser	Ala	Leu	Leu	Leu	Ile	Gln	Leu	Ser
1				5					10					15
Cys	Tyr	Phe	Ser	Ser	Gly	Ser	Cys	Gly	Lys	Val	Leu	Val	Trp	Pro
				20					25					30
Thr	Glu	Phe	Ser	His	Trp	Met	Asn	Ile	Lys	Thr	Ile	Leu	Asp	Glu
				35					40					45
Leu	Val	Gln	Arg	Gly	His	Glu	Val	Thr	Val	Leu	Ala	Ser	Ser	Ala
				50					55					60
Ser	Ile	Ser	Phe	Asp	Pro	Asn	Ser	Pro	Ser	Thr	Leu	Lys	Phe	Glu
				65					70					75
Val	Tyr	Pro	Val	Ser	Leu	Thr	Lys	Thr	Glu	Phe	Glu	Asp	Ile	Ile
				80					85					90
Lys	Gln	Leu	Val	Lys	Arg	Trp	Ala	Glu	Leu	Pro	Lys	Asp	Thr	Phe
				95					100					105
Trp	Ser	Tyr	Phe	Ser	Gln	Val	Gln	Glu	Ile	Met	Trp	Thr	Phe	Asn
				110					115					120
Asp	Ile	Leu	Arg	Lys	Phe	Cys	Lys	Asp	Ile	Val	Ser	Asn	Lys	Lys
				125					130					135
Leu	Met	Lys	Lys	Leu	Gln	Glu	Ser	Arg	Phe	Asp	Val	Val	Leu	Ala
				140					145					150
Asp	Ala	Val	Phe	Pro	Phe	Gly	Glu	Leu	Leu	Ala	Glu	Leu	Leu	Lys
				155					160					165
Ile	Pro	Phe	Val	Tyr	Ser	Leu	Arg	Phe	Ser	Pro	Gly	Tyr	Ala	Ile
				170					175					180
Glu	Lys	His	Ser	Gly	Gly	Leu	Leu	Phe	Pro	Pro	Ser	Tyr	Val	Pro
				185					190					195
Val	Val	Met	Ser	Glu	Leu	Ser	Asp	Gln	Met	Thr	Phe	Ile	Glu	Arg
				200					205					210
Val	Lys	Asn	Met	Ile	Tyr	Val	Leu	Tyr	Phe	Glu	Phe	Trp	Phe	Gln
				215					220					225
<del>Ile</del>	<del>Phe</del>	<del>Asp</del>	<del>Met</del>	<del>Lys</del>	<del>Lys</del>	<del>Trp</del>	<del>Asp</del>	<del>Gln</del>	<del>Phe</del>	<del>Tyr</del>	<del>Ser</del>	<del>Glu</del>	<del>Val</del>	<del>Leu</del>
				230					235					240
Gly	Arg	Pro	Thr	Thr	Leu	Ser	Glu	Thr	Met	Ala	Lys	Ala	Asp	Ile
				245					250					255
Trp	Leu	Ile	Arg	Asn	Tyr	Trp	Asp	Phe	Gln	Phe	Pro	His	Pro	Leu
				260					265					270
Leu	Pro	Asn	Val	Glu	Phe	Val	Gly	Gly	Leu	His	Cys	Lys	Pro	Ala
				275					280					285
Lys	Pro	Leu	Pro	Lys	Glu	Met	Glu	Glu	Phe	Val	Gln	Ser	Ser	Gly
				290					295					300
Glu	Asn	Gly	Val	Val	Val	Phe	Ser	Leu	Gly	Ser	Met	Val	Ser	Asn
				305					310					315
Thr	Ser	Glu	Glu	Arg	Ala	Asn	Val	Ile	Ala	Ser	Ala	Leu	Ala	Lys
				320					325					330
Ile	Pro	Gln	Lys	Val	Leu	Trp	Arg	Phe	Asp	Gly	Asn	Lys	Pro	Asp
				335					340					345
Thr	Leu	Gly	Leu	Asn	Thr	Arg	Leu	Tyr	Lys	Trp	Ile	Pro	Gln	Asn

350	355	360
Asp Leu Leu Gly His Pro Lys Thr Lys	Ala Phe Ile Thr His Gly	
365	370	375
Gly Met Asn Gly Ile Tyr Glu Ala Ile Tyr	His Gly Val Pro Met	
380	385	390
Val Gly Val Pro Ile Phe Gly Asp Gln Leu	Asp Asn Ile Ala His	
395	400	405
Met Lys Ala Lys Gly Ala Ala Val Glu Ile	Asn Phe Lys Thr Met	
410	415	420
Thr Ser Glu Asp Leu Leu Arg Ala Leu Arg	Thr Val Ile Thr Asp	
425	430	435
Ser Ser Tyr Lys Glu Asn Ala Met Arg Leu	Ser Arg Ile His His	
440	445	450
Asp Gln Pro Val Lys Pro Leu Asp Arg Ala	Val Phe Trp Ile Glu	
455	460	465
Phe Val Met Arg His Lys Gly Ala Lys His	Leu Arg Ser Ala Ala	
470	475	480
His Asp Leu Thr Trp Phe Gln His Tyr Ser	Ile Asp Val Ile Gly	
485	490	495
Phe Leu Leu Thr Cys Val Ala Thr Ala Ile	Phe Leu Phe Thr Lys	
500	505	510
Cys Phe Leu Phe Ser Cys Gln Lys Phe Asn	Lys Thr Arg Lys Ile	
515	520	525
Glu Lys Arg Glu		

&lt;210&gt; 6

&lt;211&gt; 1772

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte ID No: 000422CB1

&lt;400&gt; 6

```

cggcgggcac tgccaggcgg ggatcgggcg ggcgcgagct gaggtggtga gggactagct 60
cccgatgtg gagaaagctgg ggagaaggcg tgggaggaag atggactcgg tggagaaggg 120
ggccgccacc tccgtctcca acccgcgggg gcgaccgtcc cggggccggc cgccgaagct 180
gcagcgcaac tctcgcgggc gccagggccg aggtgtggag aagccccgc acctggcagc 240
cctaattctg gcccggggag gcagcaaagg catccccctg aagaacatta agcacctggc 300
gggggtcccg ctcatctggct gggtcctgcg tgcggccctg gattcagggg ccttccagag 360
tgtatgggtt tcgacagacc atgatgaaat tgagaatgtg gccaaacaat ttggtgcaca 420
agttcatcga agaagttctg aagtttcaaa agacagctct acctactag atgccatcat 480
agaatttctt aattatcata atgaggttga cattgtagga aatattcaag ctacttctcc 540
atgtttacat cctactgatc ttcaaaaagt tgcagaaatg attcgagaag aaggatatga 600
ttctgttttc tctgttgtga gacgccatca gtttcgatgg agtgaaattc agaaaggagt 660
tcgtgaagtg accgaacctc tgaatttaaa tccagctaaa cggcctcgtc gacaagactg 720
ggatggagaa ttatatgaaa atggctcatt ttattttgct aaaagacatt tgatagagat 780
gggttacttg caggggtggaa aaatggcata ctatgaaatg cgagctgaac atagtgtgga 840
tatagatgtg gatattgatt ggcctattgc agagcaaaga gtattaagat atggctatgt 900
tggcaaagag aagcttaagg aaataaaaact tttggtttgc aatattgatg gatgtctcac 960

```



```

caatggccac atttatgtat caggagacca aaaagaaata atatcttatg atgtaaaaga 1020
tgctattggg ataagtttat taaagaaaag tgggtattgag gtgaggctaa tctcagaaag 1080
ggcctgttca aagcagacgc tgtcttcttt aaaactggat tgcaaaatgg aagtcagtgt 1140
atcagacaag ctagcagttg tagatgaatg gagaaaagaa atgggcctgt gctggaaaga 1200
agtggcatat cttggaaatg aagtgtctga tgaagagtgc ttgaagagag tgggcctaag 1260
tggcgctcct gctgatgcct gttctactgc ccagaaggct gttggataca tttgcaaata 1320
taatgggtggc cgtgggtgcca tccgagaatt tgcagagcac atttgcctac taatggaaaa 1380
ggttaataat tcatgccaaa aatagaaatt agcgtaatat tgagaaaaaa atgatacagc 1440
cttcttcagc cagtttgctt ttatttttga ttaagtaaat tccatgttgt aatgttacag 1500
agagtgtgat ttggtttgtg atatatatat attgtgctct acttttctct ttacgcaaga 1560
taattattta gagactgatt acagtctttc tcagattttt agtaaatagca agtaagaaca 1620
tcatcaaagt tcacttttga ttgtaccctg taaaactgtg tgttttgtgt ctttcaaaga 1680
tgttgggatt ttatttatct ggggacagtg tgtatggtaa gacatgcctt tctattaata 1740
aaactacatt tctcaaactt gaaaaaaaaa aa 1772

```

<210> 7  
 <211> 1416  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <223> Incyte ID No: 983984CB1

<220>  
 <221> unsure  
 <222> 1398  
 <223> a, t, c, g, or other

```

<400> 7
tctggccgcg cggatcagct tccagcccag tgggcccggc ccggggggcca tggagctccg 60
agcggcggat cgcgagcctc ctgcgaaccc cagcctgcac gcccggttag cattcgcccg 120
ggagatgcgg cagtggaaatc tggaagggcg gtgaaaaacc tacgtcctgc cctcgcccg 180
cctctccatt cgtcccccg gtagagaggt gcccggtcc cacccttcc cagccccagc 240
cctggagaca gcagccccta gactactgag ggacagcgac agcatgaagg ctccgggtcg 300
gctcgtgctc atcatcctgt gctccgtggt cttctctgcc gtctacatcc tcctgtgctg 360
ctgggccggc ctgcccctct gcctggccac ctgcctggac caccacttcc ccacaggctc 420
caggcccact gtgcccggac ccctgcactt cagtggatat agcagtgtgc cagatgggaa 480
gccgctggtc cgcgagccct gccgcagctg tgccgtggtg tccagctccg gccaaatgct 540
gggctcaggg ctgggtgctg agatcgacag tgccgagtgc gtgttccgca tgaaccaggc 600
gccacccgtg ggctttgagg cggatgtggg ccagcgcagc accctgcgtg tcgtctcaca 660
cacaagcgtg ccgctgctgc tgcgcaacta ttcacactac ttccagaagg cccgagacac 720
gctctacatg gtgtggggcc agggcaggca catggaccgg gtgctcggcg gccgcaccta 780
ccgcacgctg ctgcagctca ccaggatgta ccccggcctg caggtgtaca ctttcacgga 840
gcgcacgatg gcctactgag accagatctt ccaggacgag acgggcaaga accggaggca 900
gtcgggctcc ttctcagca ccggctggtt caccatgatc ctgcgctgg agctgtgtga 960
ggagatcgtg gtctatggga tggtcagcga cagctactgc agggagaaga gccaccctc 1020
agtgccttac cactactttg agaagggccg gctagatgag tgtcagatgt acctggcaca 1080
cgagcaggcg ccccgaaagc cccaccgctt catcactgag aaggcggctt tctcccgtg 1140
ggccaagaag agggccatcg tgttcgccc tccgtcctgg aggactgagt agcttccgtc 1200
gtcctgccag ccgccatgcc gttgcggagg cctccgggat gtcccatccc aagccatcac 1260
actccacaaa aacatttaatt ttatggttcc tgccctctgc cacgtgctgg gtggacctaa 1320

```

PF-0687 USN

aggttccttc ccacccatt ctggccgaca tttggagcca tctcaggcct ccactccctg 1380  
agtaattcat ggcatttngg gggctcacc acctac 1416

<210> 8  
<211> 1889  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<223> Incyte ID No: 2210054CB1

<400> 8  
gacgtagcgg aagaaaccgc agcagctccc aggatgaact ggttgcagtg gctgctgctg 60  
ctgcgggggg gctgagagga cagcagctct atgcctttcc ggctgctcat cccgctcggc 120  
ctcctgtgcg cgtgctgcc tcagcaccat ggtgcgccag gtcccagcgg ctccgcgcca 180  
gatcccgccc actacaggga gcgagtcaag gccatgttct accacgccta cgacagctac 240  
ctggagaatg cctttccctt cgatgagctg cgacctctca cctgtgacgg gcacgacacc 300  
tggggcagtt tttctctgac tctaattgat gcactggaca ccttgctgat tttggggaat 360  
gtctcagaat tccaaagagt ggttgaagtg ctccaggaca gcgtggactt tgatattgat 420  
gtgaacgcct ctgtgtttga aacaaacatt cgagtggtag gaggactcct gtctgctcat 480  
ctgctctcca agaaggctgg ggtggaagta gaggctggat ggccctgttc cgggcctctc 540  
ctgagaatgg ctgaggaggc ggcccgaata ctctccag cctttcagac cccactggc 600  
atgccatag gaacagtga cttacttcat ggcgtgaacc caggagagac cctgtgcacc 660  
tgtacggcag ggattgggac cttcattgtt gaatttgcca cctgagcag cctcactggt 720  
gacccggtgt tcgaagatgt ggccagagtg gctttgatgc gcctctggga gagccggtca 780  
gatatcgggc tggctcgcaa ccacattgat gtgctcactg gcaagtgggt ggcccaggac 840  
gcaggcatcg gggctggcgt ggactcctac tttgagtact tggtgaaagg agccatcctg 900  
cttcaggata agaagctcat ggccatgttc cttagagtata acaaagccat ccggaactac 960  
acccgcttcg atgactggta cctgtgggtt cagatgtaca aggggactgt gtccatgcca 1020  
gtcttccagt ccttgagggc ctactggcct ggtcttcaga gcctcattgg agacattgac 1080  
aatgccatga ggaccttcct caactactac actgtatgga agcagtttgg ggggctcccg 1140  
gaattctaca acattcctca gggatacaca gtggagaagc gagagggcta cccacttcgg 1200  
ccagaactta ttgaaagcgc aatgtacctc taccgtgcca cgggggatcc caccctccta 1260  
gaactcggaa gagatgctgt ggaatccatt gaaaaaatca gcaagggtga gtgcggattt 1320  
gcaacaatca aagatctgcg agaccacaag ctggacaacc gcatggagtc gttcttccctg 1380  
gccgagactg tgaaatacct ctacctctg tttgacccaa ccaacttcat ccacaacaat 1440  
gggtccacct tcgacacggt gatcaccctc tatggggagt gcctcctggg ggctgggggg 1500  
tacatcttca acacagaagc tcacccatc gaccctgccg ccctgcactg ctgccagagg 1560  
ctgaaggaag agcagtggga ggtggaggac ttgatgagg aattctactc tctcaaaccg 1620  
agcaggtcga aatttcagaa aaacactggt agttcggggc catgggaacc tccagcaagg 1680  
ccaggaacac tcttctcacc agaaaaaccat gaccaggcaa gggagaggaa gcctgccaaa 1740  
cagaaggtcc cacttctcag ctgccccagt cagcccttca cctccaagtt ggcattactg 1800  
ggacaggttt tcctagactc ctcataacca ctggataatt tttttatttt tatttttttg 1860  
aggctaaact ataataaatt gcttttgggt 1889

<210> 9  
<211> 2135  
<212> DNA  
<213> Homo sapiens

<220>

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte ID No: 2618358CB1

&lt;400&gt; 9

```
ctcctctggc caaaggggtgc tctgcttctg gcagctgaag atcccagtag acagcttctt 60
aaacctatggc tttccctgca ggatttggat gggcggcagc actgcagctt atcaagtaga 120
aggaggctgg gatgcagatg gaaaaggccc ttgtgtctgg gacacattta ctcacagagg 180
aggagagaga gttttcaaga accagactgg cgatgtagct tgtggcagct acactctgtg 240
ggaggaagat ttgaaatgta tcaaacagct tggattgact cattaccgct tctctctttc 300
ctgggtcacgt ctgttacctg atgggacgac aggtttcatc aaccagaaag gaattgatta 360
ttacaacaag atcatcgatg atttgttaaa aaatgggggt actcccattg tgaccctcta 420
ccactttgat ttgcctcaga ctttagaaga ccaaggaggt tggttgtcag aggcaatcat 480
tgaatccttt gacaaatatg ctcagttttg cttcagtacc tttggggatc gtgtcaagca 540
gtggatcacc ataatgaag ctaatgttct ttctgtgatg tcatatgact taggtatgtt 600
tcttcgggt atccctcact ttgggactgg aggttatcag gcagctcata atttgattaa 660
ggctcatgcc agatcctggc acagctatga ttccttattt cgaaaaaagc agaaagggtat 720
ggtgtctcta tcactttttg cgggtctggtt ggaaccagca gatcccaact cagtgtctga 780
ccaggaagct gctaaaagag ccatcacttt ccatctggat ttatttgcta aaccatatt 840
catcgatggt gattatcctg aagtgtgcaa gtctcagatt gcctccatga gtcaaaagca 900
aggctatcca tcacgaggc ttccagaatt cactgaagaa gagaagaaaa tgatcaaagg 960
cactgctgat ttttttgctg tgcaatatta tacaactcgc ttaatcaagt accaggagaa 1020
caagaaagga gaactaggta ttctccagga tgcggaaatt gaattttttc cagatccatc 1080
ttggaaaaat gtggattgga tctacgtggt accatgggga gtatgtaaac tactgaaata 1140
tattaaggat acatataata accctgtaat ttacatcact gagaatgggt ttccccagag 1200
tgaccagcg cctcttgatg acactcaacg ctgggagtat ttcagacaaa catttcagga 1260
actgttcaaa gctatccaac ttgataaagt caatcttcaa gtatatttg catggtctct 1320
tctggataac tttgagtgga accagggata cagcagccgg tttggtctct tccacgttga 1380
ttttgaagac ccagctagac cccgagtccc ttacacatcg gccaaggaa atgccaagat 1440
catccgaaac aatggccttg aagcacatct gtaggcaaga tggctgagaa atacaggaga 1500
ggcgtctgct tttggaaagg aaatctgctt tgggtgatgat ctttcaggca atctcaactt 1560
acttcttta tcaacattta atatcaatgg atctgtgatt aaaagggtctg aatatgtaat 1620
gcctcgtgaa gtatttaata atggccttta tttgtatttg gatcaatgag gtttttaaaa 1680
aaaatggaag agaaaaccac taaccttgat tttgtatttg caaaatcaga tagacctgga 1740
aacataaatt taaatcctta gacatttttc tagaaaaaaa tgcaaagttt ataaagatga 1800
tacaaccatg atttgcaact gtaacaggag accatttatt ataagcgtac ctgtttgtga 1860
acttaattat tctgattcca taagctgttt ttgcttaggt gatccactgc catgtgatcc 1920
ataatttttc tacataaaaa atcaaagtta aaagtcacat tatacagtta tgcattcatt 1980
tcaacaaaat agtgaattga taatctactt gttaatatat tcggcccata ttttgtgtgt 2040
ttggacaagt acatctccct tttgccta atgaactttga aaaataataa aataatagaa 2100
taaattagac tttgaatggc aaaaaaaaaa aaaaaa 2135
```

&lt;210&gt; 10

&lt;211&gt; 1650

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;223&gt; Incyte ID No: 2912330CB1

&lt;400&gt; 10

```
agcaactgga aaacaagcat tgcattgcat caggatgtct atgaaatgga cttcagctct 60
```

tctcctgata	cagctgagct	gttacttttag	ctctgggagt	tgtggaaaagg	tgctgggtgtg	120
gcccacagaa	ttcagccact	ggatgaatat	aaagacaatc	ctggatgaac	ttgtccagag	180
aggctcatgag	gtgactgtat	tggcatcttc	agcttccatt	tctttcgatc	ccaacagccc	240
atctactctt	aaatttgaag	tttatcctgt	atctttaact	aaaactgagt	ttgaggatat	300
tatcaagcag	ctggttaaga	gatgggcaga	acttccaaaa	gacacatttt	ggtcatattt	360
ttcacaagta	caagaaatca	tgtggacatt	taatgacata	cttagaaagt	tctgtaagga	420
tatagtttca	aataagaaac	ttatgaagaa	actacaggag	tcaagatttg	atgttgttct	480
tgcagatgct	gttttccctt	ttggtgagct	gctggccgag	ttacttaaaa	taccctttgt	540
ctacagcctc	cgcttctctc	ctggctacgc	aattgaaaag	catagtggag	gacttctgtt	600
ccctccttcc	tatgtgcctg	ttgttatgtc	agaactaagt	gaccaaata	ctttcataga	660
gagggtaaaa	aatatgatct	atgtgcttta	ttttgaattt	tggttccaaa	tatttgacat	720
gaagaagtgg	gatcagttct	acagtgaagt	tctaggaaga	cccactacgt	tatctgagac	780
aatggcaaaa	gctgacatat	ggcttattcg	aaactactgg	gattttcaat	ttcctcacc	840
actcttacca	aatgttgagt	tctgttgagg	actccactgc	aaacctgcca	aaccttacc	900
gaaggaaatg	gaagagtttg	tccagagctc	tggagaaaat	ggtgttggtg	tgttttctct	960
ggggtcgatg	gtcagtaaca	cgtcagaaga	aagggccaat	gtaattgcat	cagcccttgc	1020
caagatccca	caaaagggtt	tgtggagatt	tgatgggaat	aaaccagata	ctttaggact	1080
caatactcgg	ctgtacaagt	ggatacccca	gaatgatctt	cttgggtcat	ccaaaaccaa	1140
agcttttatc	actcatgggt	gaatgaatgg	gatctatgaa	gctatttacc	atgggggtccc	1200
tatggtggga	gttccccatat	ttggtgatca	gcttgataac	atagctcaca	tgaaggccaa	1260
aggagcagct	gtagaaataa	acttcaaaac	tatgacaagc	gaagatttac	tgagggtctt	1320
gagaacagtc	attaccgatt	cctcttataa	agagaatgct	atgagattat	caagaattca	1380
ccatgatcaa	cctgtaaagc	ccctagatcg	agcagtcctt	tggatcgagt	ttgtcatgcg	1440
ccacaaagga	gccaaagcacc	tgcgatcagc	tgcccatgac	ctcacctggt	tccagcacta	1500
ctctatagat	gtgattgggt	tctgtctgac	ctgtgtggca	actgctatat	tcttgttcac	1560
aaaatgtttt	ttattttcct	gtcaaaaatt	taataaaact	agaaagatag	aaaagagggga	1620
atagatcttt	ccaaattcaa	gaaagacctg				1650